

Title: Functional and radiological outcome analysis of posterior stabilisation done for thoraco lumbar spine fractures

Abstract

Introduction : Spinal injuries are more serious injuries. Thoracolumbar region are involved in 90% of injuries. Thoracolumbar fractures occur from all types of trauma such as fall from height, road traffic accidents and crush injuries 1. Twenty per cent of spinal injuries are associated with neurological deficits, which cause significant morbidity and mortality. . Most of patients belongs to young, active age group which causes financial burden to the family in particular and the socio-economic status of country in general . Despite these advancements, managing these fractures still pose a challenge to orthopaedic surgeons. Surgical decompression and posterior instrumented fusion in spinal injuries enables the patient to become ambulant at the earliest without much pain and gives a fair chance of neurological recovery when the compressed neural elements are released .

Materials and methods: We had 20 cases of unstable thoraco-lumbar fractures who were treated by posterior decompression with short segment posterior instrumentation with pedicle screw system. The study includes 17 males and 3 females. The age group involved in our study ranged between 20 years and 59 years Spine injuries were classified based on Denis system. Complete clinical and neurological examination was done.

Results : Functionally 85% of patients were able to return to their job thus restoring the patients socio-economic status and 55% of patients were pain free and 20% patients had minimum pain not hampering daily living on 6 months followup. The sagittal index improved by operation from 0.50 to 0.77 and maintained at 6 months follow-up ($P = 0.0005$). The anterior body compression decreased after surgery and maintained at 6 months follow-up ($P = 0.0005$). The regional kyphosis preoperative was 17.20° and postoperative was 3.65° . At 6 months follow-up assessment, the kypotic angle was 4.70° ($P = 0.0005$).

Conclusion: We conclude that posterior stabilisation in the form of posterior fixation including fractured vertebra for thoraco-lumbar spine fractures has given encouraging results on short term follow-up. Posterior stabilisation with restoration of anterior column height is most important in determining the outcome which needs to be confirmed on long term followup.

Keywords: posterior stabilisation, thoracolumbar spine fractures, sagittal index, kyphotic angle, functional outcome.